DRAFT

ONONDAGA LAKE PROJECT
MINUTES OF MEETING ON ONONDAGA LAKE RI/RA ISSUES
MARCH 13, 2001

Participants:	NYSDEC, USEPA, NYSDOL, TAMS Honeywell, Exponent Onondaga County, Ecology & Environment, Stearns & Wheler (See attached attendance list)
Where:	Conference call, various locations
When:	March 13, 2001
Purpose:	This meeting focused on outstanding Lake RI and BERA issues as per Honeywell's "Agenda for the March 2001 Meeting with NYSDEC on the Onondaga Lake RI and BERA" (transmitted by e-mail to NYSDEC on 2/20/01 and attached to these minutes)

***Remedial Investigation*:**

Mercury Mass Balance

Betsy Henry (BH) of Exponent indicated that the technical memo referred to in paragraph 2 of the Agenda related to porewater and mass balance issues is currently being prepared by Honeywell/Exponent and she expects to submit the memo to NYSDEC later this week or early next week. Tim Larson (TL) of NYSDEC will transmit the memo to USEPA and Onondaga County. Discussion of porewater and mercury mass balance issues was deferred to approximately one week after submittal of the memo.

Mercury Groundwater Loadings from the Honeywell Willis Avenue Subsite

Don Hesler (DH) of NYSDEC indicated that he is generating comments on the groundwater loadings from the Honeywell Willis Avenue subsite RI report for consideration in the 1992 mass balance portion of the Lake RI. Comments are being developed from comments received from NYSDOH, TAMS, and Onondaga County as well as NYSDEC's own concerns. DH indicated that results from pump testing from the mid 1980s conducted for Honeywell (AlliedSignal) by Groundwater Technologies should be considered as the pump testing during this time likely resulted in more realistic and site-wide estimates of groundwater flow (hydraulic conductivity) than the slug tests performed more recently by O'Brien & Gere during the RI. A range of loading values should be presented based on arithmetic mean flows and concentrations (rather than geometric mean) as well as an upper bound based on maximum values. Mercury concentration and loading data from the I-690 sampling should also be considered in addition to data from shallow groundwater wells. DH will provide comments to Honeywell on this issue next week.

Baseline Ecological Risk Assessment (BERA):

Selection of COCs

TL indicated that NYSDEC and TAMS provided direction to Honeywell and Exponent during a conference call on February 21, 2001. Refinement of COCs for the Lake BERA should follow the procedures used by NYSDEC for the Geddes Brook/Ninemile Creek BERA. Michael Spera (MS) of TAMS provided Honeywell/Exponent with a template to use on February 23, 2001. Due to limited time prior to submittal of the revised BERA, it was agreed that the refined list of COCs be presented in the revised BERA with documentation of the selection process and that NYSDEC would not provide their own list beforehand.

Onondaga Lake Sediment Quality Values (OLSQVs):

TL indicated that NYSDEC provided its position related to OLSQVs for the BERA and FS in a January 25, 2001 e-mail to Honeywell. TL and Tim Sinnott (TS) of NYSDEC indicated that the first paragraph of item 2 (SQVs) and first bullet (Sediment Toxicity Metrics) in the Agenda accurately summarize NYSDEC's January 25 position. Gary Bigham (GB) of Exponent indicated that Theresa Michelson has been assisting Exponent in evaluating the Onondaga Lake data using the floating percentile (FP) approach pursuant to NYSDEC's January 25 position. GB indicated that her standard approach won't work with this data set and that certain compounds need to be eliminated to generate FP values; this modified approach will be documented in the revised BERA as per GB. GB indicated that there is pretty good similarity between the ERM, AET and the FP values and that the TEL and ERL are lower.

Scott Becker (SB) of Exponent summarized a revised set of AET, ERL, ERM, TEL, and PEL values for mercury (no handout) based on a combination of all four 1992 10-day toxicity test endpoints (amphipod survival, amphipod biomass, chironomid survival, and chironomid biomass). MS asked why the values stated by SB are different (higher) than those presented in the handouts from the January 19, 2000 meeting. SB indicated that the January 2000 handout showed ERL, ERM, TEL, and PEL values based on the chironomid biomass endpoint only (since this endpoint resulted in the lowest AET value of 5.5 ppm for mercury). According to SB, the new values are based on combining effects data from all four endpoints. TS of NYSDEC indicated that he will have to consider this approach (combining all endpoints in this manner) since this is something new but that the effects data presented in 2000 based solely on the chironomid biomass endpoint should be presented in the revised BERA. GB indicated that they will present the analysis using the combined endpoints approach as well as separating out the endpoints, including chironomid growth, as per TS.

SB indicated that there are insufficient toxicity results from Phase 2A (2000) for generating a new set of metrics (ERL, ERM, PEL, and TEL) but AET values could be determined for mercury and some other COCs. TS indicated that the 2000 data cannot be discarded in developing OLSQVs since there were documented problems with the 1992 toxicity testing. TS also indicated that acute to chronic ratios could be developed based on the 2000 toxicity results and then applied to the 1992

data. MS indicated that Exponent agreed during the January 19, 2000 meeting that since the 15 long-term toxicity testing locations for the upcoming Phase 2A sampling were based on low, moderate, and high mercury concentrations using the extensive 1992 data, that another set of OLSQV (AET) values could be presented using the 2000 toxicity and chemistry data and that more than 15 stations for long-term toxicity would not be needed. MS indicated that the 2000 results for mercury met the objectives in that a wide concentration range was reported by Exponent (0.7 ppm to 78 ppm) at the 15 lake toxicity stations and that OLSQVs based on the 2000 data should still be presented in the revised BERA for mercury and key COCs where the 2000 data support doing so. GB indicated that they will also present OLSQVs using the 2000 data for select parameters where the data support doing so and the justification for not determining 2000 OLSQVs or AETs for other parameters will be documented in the revised BERA.

MS indicated that, based on Exponent's December 2000 table summarizing the 2000 toxicity results, 10 of the 15 Phase 2A stations showed effects. SB indicated that the table presented in December 2000 was submitted prior to running the full statistics and that there may be less than 10 stations that now show effects based on the completed statistics. This analysis will be presented in the revised BERA.

SB indicated that the benthic community data and associated metrics required by NYSDEC (Bob Bode) should not be used in the derivation of OLSQVs since the cause of the impairment at impacted stations can't be distinguished between lake-wide non-chemical effects and chemical toxicity. In addition, GB indicated that agreement with Bob Bode on the cause of the effects at each station will likely be difficult. SB indicated that although the benthic metrics using the 1992 and 2000 data won't be used in developing OLSQVs, the results which indicate an imparement throughout the Lake will be presented in the revised BERA. SB also indicated that the benthic community based on the Phase 2A (2000) sampling was impacted by zebra mussels both in Otisco Lake and Onondaga Lake and they may not be able to present benthic metrics for 2000. Results will be summarized in the revised BERA. TS agreed with complications caused by zebra mussels.

GB indicated that Honeywell/Exponent will provide a set of revised OLSQV (toxicity metrics) tables with limited documentation prior to submittal of the revised BERA.

Ionic Wastes

TL restated NYSDEC's General Comment 1 on the draft BERA (NYSDEC, March 15, 1999) related to inclusion of a discussion of the ecological effects of Honeywell's discharges of ionic wastes to Onondaga Lake, its wetlands and downstream to the Lake outlet and Seneca River. Dave Stoner (DS) of Stearns & Wheler indicated that Honeywell/Exponent should evaluate the effects of chloride on mercury solubility. DS will submit a letter on this issue that was previously submitted to NYSDEC with Onondaga County's comments on the Honeywell Bridge Street subsite. GB indicated that Honeywell/Exponent will include an expanded discussion in the revised BERA in a separate section, including a discussion of the effects of alkalinity and chlorides on mercury

solubility and bioavailability. Additional discussion on this issue previously presented in the draft RI will be summarized in the revised BERA.

Food Web Modeling

TL indicated that based on recent discussions with Honeywell and USEPA that Honeywell/Exponent will need to submit work plans for conducting probabilistic risk assessments for both the human health risk assessment (HHRA) and the BERA to fulfill USEPA requirements. GB indicated that the work plan memo for the probabilistic HHRA will be submitted shortly followed by the work plan memo for the probabilistic BERA. GB indicated that the work plan memos will present the objectives of the probabilistic risk assessments and a discussion of what parameters or variables will be evaluated. GB indicated that the probabilistic risk assessments will supplement the deterministic risk assessments using both the 50^{th} and 95^{th} percentiles. TL indicated that NYSDEC/TAMS will submit comments to Honeywell/Exponent shortly on their technical memo entitled "Risk Analysis for Terrestrial Wildlife" (e-mail dated January 4, 2001) and will also include comments on the toxicity reference values (TRVs) that were used in the screening tables. Mark Moese (MM) and Helen Chernoff (HC) of TAMS summarized some of the comments that will be provided to Honeywell/Exponent, including insufficient detail on the objectives, approach and methodology for the probabilistic risk assessments as compared to USEPA guidance, problems with the assessment and measurement endpoints, concerns regarding subpopulation risk estimates and the three-tiered approach, and availability of alternative TRVs, including TRVs for methylmercury and PCBs. Chris Mackay (CM) of Exponent indicated that the TRVs used in the screening will be used in the revised BERA and the uncertainty factors used to convert LOAELs to NOAELs (or TRVs) will be consistent for the COCs evaluated in the revised BERA that do not have NOAEL values.

Other Issues:

MS of TAMS indicated that there have been changes to Exponent's Phase 2A data files due to validation and/or QA/QC review, in particular a change in the reported mercury concentration of the surface interval at core S317 (in the vicinity of Metro near Onondaga Creek) from 172 ppm to 17.2 ppm. Dave Coburn (DC) of Onondaga County indicated that BH of Exponent called him regarding this change. DS of Stearns & Wheler also questioned the benthic chemistry results at this station. MS indicated that BH of Exponent was to document significant changes in the data (i.e., changes from Export 13 files or earlier to Export 15 files) to assist NYSDEC in its review. Al Labuz (AL) of Honeywell will speak to BH about this.

Conclusions:

TL of NYSDEC and GB of Exponent summarized the items that will be submitted prior to issuance of the revised RI and revised HHRA and BERA.

Honeywell/Exponent will provide four submittals, including a memo on mercury mass balance and sediment releases, updated OLSQV tables using both 1992 and 2000 data, and two work plan memos for the probabilistic risk assessment components of the revised HHRA and BERA.

NYSDEC will provide two submittals, including comments on groundwater loadings from the Honeywell Willis Avenue subsite to Onondaga Lake and comments on Honeywell/Exponent's food web modeling approach memo.

Prepared by: Michael L. Spera, TAMS, March 14, 2001

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